

11-13-2007

## Moral Conflicts in Teaching Project Work: A Job Burdened by Role Strains

Tero Vartiainen

*University of Jyväskylä*, tvarti@cs.jyu.fi

Follow this and additional works at: <https://aisel.aisnet.org/cais>

---

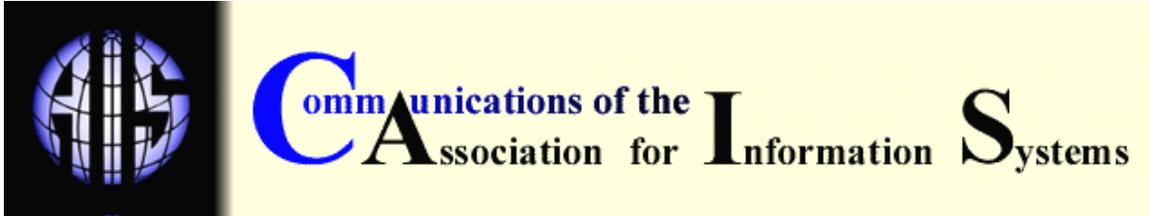
### Recommended Citation

Vartiainen, Tero (2007) "Moral Conflicts in Teaching Project Work: A Job Burdened by Role Strains," *Communications of the Association for Information Systems*: Vol. 20 , Article 43.

DOI: 10.17705/1CAIS.02043

Available at: <https://aisel.aisnet.org/cais/vol20/iss1/43>

This material is brought to you by the AIS Journals at AIS Electronic Library (AISeL). It has been accepted for inclusion in Communications of the Association for Information Systems by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).



## MORAL CONFLICTS IN TEACHING PROJECT WORK: A JOB BURDENED BY ROLE STRAINS

Tero Vartiainen  
 Turku School of Economics  
[tero.vartiainen@tse.fi](mailto:tero.vartiainen@tse.fi)

### ABSTRACT

This case study concerns moral conflicts identified by instructors on a project course in information systems education. Students on the course in question are expected to acquire project-work skills through implementing a project task for a real-life client. Data about moral conflicts was gathered by means of participant observation and interviews, and a phenomenographical approach was taken in the analysis. Six types of moral conflicts were identified, reflecting two aspects of the phenomenon. The first relates to conflicts involving outside parties and task-related and human issues and the second to deliberation about performing morally wrong acts or upholding relations. The core problem area in the instructor's work became visible in the form of inherent role strains and the need to react to conflicting expectations from all parties. The underlying source of the strains was the clash between the objectives of the clients and the learning aspect promoted by the university. This and three other types of strain made the instructor's work mentally demanding and morally challenging. Recommendations for dealing with these moral conflicts and role strains are given. Finally, the study is evaluated against the principles laid down for interpretive research.

**Keywords:** project-based learning, project work, small-group guidance, university-industry relations, role strain, role conflict, professional ethics, moral conflicts

### I. INTRODUCTION

Project work is a commonly used method in the IT field and is considered an essential component in educating future computer professionals [Gorgone et al. 2002]. The benefits of project courses are evident in that students acquire communications skills [Pigford 1992; Fritz 1987], and team-building and interpersonal skills [Roberts 2000; Ross and Ruhleder 1993], for example. In cases in which student projects are implemented for real-life clients [Green 2003; Watson and Huber 2000; Cotterell and Hughes 1995; Tourunen 1992; Brown et al. 1989] rather than being purely hypothetical, students gain valuable experience for the start of their careers. Indeed, collaborative student projects are a common form of industry-academia collaboration in the IT field [Ziegler 1981; Bergeron 1996]. This kind of collaboration benefits industry by producing results and opening up contacts with students—who are possible future employees. However, project courses are recognised as complex to manage and demanding for teachers [Moses et al. 2000]—and for teachers there are moral issues<sup>1</sup> to deal with [Fielden 1999; Scott et al. 1994]. For

---

<sup>1</sup> Moral and ethics are used synonymously in many studies. In this study, for the sake of simplicity, I use the term “moral.”

example, the level of commitment may be inconsistent in the group, or a group member may misbehave. If the teacher intervenes, he or she exercises power. Indeed, the student-teacher relationship is not equal as the teacher has power over students or pupils (in terms of the knowledge to be transferred and of grading, for example). Thus teaching as such is perceived as an inherently moral activity [e.g., Tom 1980; Fenstermacher 1991; Joseph and Efron 1993]. Joseph and Efron [1993] state that dialogue about moral education extends beyond the specific curricula or ethical codes to considering the teacher as a moral agent, who confronts and resolves moral conflicts in his or her daily work. The discussion about ethical codes and ethics teaching in curricula continues in the field of computing [e.g., Bynum 1992; Anderson et al. 1993; Johnson 1994; Berleur and Brunsstein 1996], but moral issues from the teacher's perspective have been rarely touched on. Therefore, it is worthwhile to investigate teachers' lived experiences of moral conflicts in any educational institute and in any field of study in order to increase our ability to resolve them.

My aim in this study is to identify moral conflicts perceived by instructors<sup>2</sup> on a project course in computing. I used participant observation in order to determine the moral conflicts that I as an instructor confronted during my work, and I interviewed other instructors about the moral conflicts they perceived in their work. In the data gathering and analysis I adopted the phenomenographical approach, the aim of which is to describe qualitatively different ways of experiencing the investigated phenomenon. Phenomenography is concerned with the second-order perspective, which means that the researcher describes some aspect of reality as conceived of by individuals, whereas the first-order perspective means that the researcher describes the reality as he or she perceives it [Marton and Pang 1999]. It was in this spirit that I analysed the perceptions of instructors—including my colleagues—and my own experiences.

Six types of moral conflicts were found along two dimensions. The first dimension relates to outside parties and to task-related and human issues and the second to deliberations about performing morally wrong acts and maintaining relations in socially complex situations. Failure in moral behaviour (e.g., negligence in connection with work tasks) caused some instructors to confront relations-directed moral conflicts in terms of reacting to such behaviour. The professional morality of the instructor was revealed in the task- and human-related conflicts in the form of role strain, meaning that an actor experiences difficulties in meeting role expectations. Role strain is a broader term for role conflict, which means that the actor confronts conflicting or competing expectations [Secord and Backman 1964, 468]. The instructor's work was found to include various and even competing expectations, which the subjects interpreted as morally relevant. These expectations, which stemmed from clients, students, other instructors, and even the subjects themselves made the work of guiding small groups morally problematic and mentally demanding. This was especially the case for novice instructors. Other significant moral conflicts were related to collaboration with local IT firms, the different roles the instructors had (e.g., researcher, friend), and how they should treat each other.

This study is focused on moral conflicts. The reader should be aware that this perspective leads to an over-negative image of being an instructor on the chosen project course. There are plenty of positive experiences, however; seeing students develop their professional career potentials, the thrilling solutions they produce for the firms, and the constant development of one's own capabilities make this work worth the effort it requires.

Following this introduction, Section 2 positions this research in the existing literature. The research design is described in Section 3, and the resulting categorisation of moral conflicts is presented in Section 4. Section 5 reflects on the results in the light of the existing literature on moral conflicts in teachers' work. In addition, the section evaluates the research, and presents

---

<sup>2</sup> In this study, university teacher is a general term meaning any teacher in a university department. An instructor is a university teacher who leads the project course or guides student groups in the course.

recommendations for instructors in terms of managing moral conflicts and role strains on project courses. Section 6 concludes the paper.

An earlier version of this paper appeared in Vartiainen [2005a].

## II. MORAL PSYCHOLOGY AND THE TEACHER'S WORK

This section first introduces a general model of moral behaviour and presents certain theories of moral conflicts, which provide the theoretical background for confronting such conflicts. The ethos of the teacher and the experiences of teachers of computing on project courses are then discussed.

### THE FOUR COMPONENT MODEL

James Rest [1984, 1994] combined the existing research on moral behaviour in a four component model. These components consist of four simplified and overlapping processes through which an individual may fail in acting morally. The main features of these components are briefly described below (there is a multitude of studies underlying each component but they are not referred to here). The four components are:

- Moral sensitivity (recognition of moral conflicts);
- Moral judgment (judging which course of action is the most justified);
- Moral motivation (why be moral?); and
- Moral character (the psychological strength to carry out a line of action).

Moral sensitivity implies awareness of how our actions affect other people. It also involves being aware of alternative actions and how those actions affect other parties. For example, certain teachers may not notice that they favour boys at the expense of girls, but when someone points this out they may begin to observe their own behaviour in a new light. Moral sensitivity is a key component in recognising moral conflicts [Clarkeburn 2002] —it is possible that an individual does not observe that the decision-making situation has moral relevance.

Moral judgment is about judging which courses of action are the most justified, and this component rests on Kohlberg's [1981] theory of moral development. Kohlberg's [1981] six stages of moral development are based on the notion that individuals' problem-solving strategies progress to higher stages as they develop. On the higher levels, they have better decision-making tools and, although they are able to understand lower-level arguments, they no longer prefer them. As a brief example, stage 4 in Kohlberg's theory relates to maintaining law and order. An individual representing that stage in the resolution of moral conflicts argues on the basis of adhering to the laws of society. On the other hand, someone representing stage 5, the legalistic approach to social contracts, takes a "society-creation" attitude in basing his or her argumentation on a critical analysis of what individual rights and standards should apply to the whole of society.

Moral motivation refers to prioritising moral values above non-moral values. Here a moral agent asks, "Why be moral?" For example, if one perceives lying as morally wrong and is in a position to profit economically by lying, one has to choose between an economic value (profit) and a moral value (honesty). If one chooses to lie, one has failed in terms of moral motivation.

Moral character refers to the psychological strength to carry out a line of action. A person may be weak-willed and if others put enough pressure on him or her to act immorally, he or she may fail in this component.

The above-mentioned psychological processes, the components, combined form outwardly observable moral behaviour, and there are dependencies between them [Myry 2003]. For example, the moral reasoning and values one upholds have at least moderate interdependency.

In this study, although decision-making and the implementation of decisions on moral conflicts are present in the perceptions of the instructors, the focus is on collecting descriptions of such conflicts in their work. The results therefore depend on the instructors' moral sensitivity to moral conflicts.

### **MORAL CONFLICTS**

A moral conflict in this study refers to a morally relevant decision-making situation in which the fulfilment of a moral requirement is at stake. A distinction is made between a moral conflict and a moral dilemma: the former is perceived as resolvable and latter as insolvable [Hill 1996; Nagel 1987]. In a dilemma a moral agent [Gowans 1987, 3]:

1. morally ought to do A;
2. morally ought to do B; but
3. cannot do both, either because B is just not-doing-A or some contingent feature of the world prevents it.

Typically, the moral agent in a moral dilemma feels mental anguish and helplessness about the situation, and this assumes major significance to that particular individual [Statman 1995, 7]. For some people abortion and euthanasia are examples of moral dilemmas. In the case of a resolvable moral conflict the moral agent is able to produce a defensible solution. As an example of such a situation, an IT professional was pressured by a client representative to implement a low security level in a system containing sensitive information about the employees of the client organisation [Anderson et al. 1993]. In the present context the interpretation would be that the IT professional faced two conflicting moral requirements: to implement the client's demands, and to guarantee the confidentiality of the employees' information. In addition to conflicting duties and obligations [Lemmon 1987, Nagel 1987], egoistical impulses have also been recognised to be factors in real-life moral conflicts. According to Packer [1985], real moral conflicts usually consist of a struggle between principles or obligations and one's inclinations or egoistic impulses. Self-interest, together with concern for others, relationships and justice, are visible in the results reported by Gillian and Krebs [2000]. They asked 60 students to describe themes in given moral conflicts and then assigned the answers to four main categories and various subcategories (in parenthesis):

- Upholding justice (procedural justice, combating immorality, positive reciprocity, normative order, general utilitarian considerations);
- Upholding the self (self-autonomy, consequences to the self, consequences to self-respect, consequences to self-reputation, others' respect for and trust in the self);
- Upholding others (caring for others, respect for others and their rights and autonomy, listening to, considering and understanding perspectives, adapting the self's response to anticipated reactions of others, positive social influence, putting oneself in others' shoes); and
- Upholding relationships (maintaining relationships, quality of relationships, trust and honesty in relationships).

The researchers pointed out that the subjects interpreted all the dilemmas identified in the study as involving predominantly care-based or justice-based issues.

### **THE TEACHER'S MORAL ETHOS**

Oser [1991] distinguishes three types of cognitive morality in the context of the teacher's ethos. The first of these, *normative morality*, refers to reasoning about hypothetical courses of action in decision-making situations. This kind of reasoning is insufficient in terms of producing actions in concrete situations, but it is used in research on moral judgement, in Kohlberg's [1981] studies,

for example. The second type, *situational morality*, refers to the real-life situations in which the individual is required to act. The deliberations are more complicated in these decision-making circumstances than in the hypothetical cases because the situational facts, such as the social and psychological aspects, influence the moral reasoning. Third, *professional morality* refers to functional, professional acting, which at first sight seems to be nonmoral in nature. For example, the case of a teacher grading students knowing that poor grades may negatively affect their futures shows the conflictual nature of the teacher's work. From his extensive interviews with teachers, Oser found that the ethos of the teacher and teaching problems could be reduced to three variables, justice, caring, and truthfulness (Figure 1). In the previously mentioned case of the teacher grading her students, caring and justice conflicted in that the teacher is concerned about the future of her students, but she also recognises that her treatment of them should be fair.



Figure 1. The Teacher's Ethos Model [Oser 1991]

The literature on computing contains few references to moral conflicts in project courses or in educational settings in general. Scott et al. [1994, 112] consider some moral issues concerning project courses:

- a) loners do not work well with others and want to "do their own thing";
- b) whistle blowing may not be done for various reasons; and
- c) handling the typical work ethic where "a few students do most of the work, some do just enough to get by and some do almost none."

These moral issues relate to individual students' acts and behaviour in the group. From the instructor's viewpoint assigning meaningful grades is ethically difficult [Scott et al. 1994]. For example, whom should the instructor believe when a student or a team complains that another student or team is not doing its share of the work? How should the instructor react if a student complains that he or she would have been much more successful than other students in accomplishing the project objectives?

Fielden [1999] describes her experiences from over 10 years of conducting a student project course. Moral conflicts in student projects have emerged in the relationship between users and students when the users have had unrealistic expectations about what the students can accomplish. Conflicts also emerge when the student group does not come up with what was agreed when the contract with the client was signed. The same kinds of conflicts arise if a student from the group claims that he or she is able to accomplish something the group cannot do (due to a lack of skills and expertise among the members), or if there are different individual commitment levels inside the group. Dubious work practices in a client organisation may also produce conflicts.

### III. RESEARCH DESIGN

This section begins with a presentation of the research method used—phenomenography. It continues with a description of the chosen course setting and the data gathering, and ends with an analysis of the data.

#### PHENOMENOGRAPHY

The phenomenographical research method was developed at Gothenburg University in order to study human understanding of specific phenomena [Marton 1992]. The aim is to identify and describe qualitative variation in individuals' experiences of their reality [Marton 1986, 31]:

Phenomenography is a research method adapted for mapping the qualitative different ways in which people experience, conceptualise, perceive, and understand various aspects of, and phenomena in, the world around us.

The aim of a phenomenographic researcher is to attain a holistic view of a selected phenomenon, and—according to Marton [1995, 178]—this is possible because there are a limited number of qualitatively different ways to experience it:

...had the number of potential aspects (we are talking about essential aspects that define the phenomenon) been infinite, we could have experienced every situation, every phenomenon differently, each one of us. ... We have variation and resemblance in our way of viewing the world. In order for this to be the case the number of critical aspects that define the phenomenon must be limited. And the number of critical aspects must be limited because we learn to experience them by successive differentiations from each other. Oversimplifying things a bit, the different ways of experiencing a phenomenon reflect different combinations of the aspects that we are focally aware of at a particular point in time.

What is characteristic of phenomenography is the aim to capture conceptualisations that are faithful to individual experiences of the selected phenomenon. Those conceptions, which are typically gathered by means of interviews, are then categorised and the relations between the categories are further explored [Francis 1993, 69]. A phenomenographic researcher seeks qualitatively different ways of experiencing the phenomena regardless of whether the differences are between or within individuals. He or she tries to achieve a so-called second-order perspective on the investigated aspect of the reality. This is attained by describing the conceptions of a group of individuals—instead of taking the first-order approach and describing the reality directly, which is the convention in ethnographical studies (Figure 2).

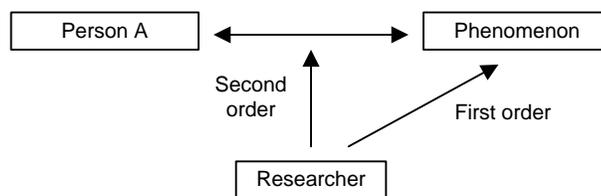


Figure 2. The First- and Second-Order Perspectives [Uljens 1991; Järvinen 2001]

Awareness, like all concepts, has two aspects: the "what" or referential aspect, which corresponds to the object itself, and the "how" or structural aspect, which relates to the act [Marton and Pang 1999]. The former refers to what the mental act is directed toward. In phenomenological terms it is known as *noema*, which stands for what is experienced [Ihde 1979, 44]. The "how" denotes the different aspects of the phenomenon that constitute its overall meaning. In the phenomenological context it is called *noesis*, which stands for the experiential mode [ibid.]. To understand the whole we must understand both the object and the mode of a

person’s mental acts [Uljens 1991, 84]. The structural aspect relates to how the phenomenon is discerned from its environment and how the different parts relate to each other [Isomäki 2002, 63].

There are two characteristics of phenomenography that make it a promising method for the purposes of this study. First, the aim of the research method is to show the qualitative variation in which a certain population understands something [Järvinen 2007]. The aim in this study is to determine what individual instructors perceive as moral conflicts in their work and what these individuals are able to describe is therefore dependent on their moral sensitivity [Rest 1984]. Second, the interest in phenomenography is both in the object itself and in how it is experienced. As far as moral conflicts are concerned, we are able to express our conceptions of them (the “what” aspect), and we have intentions in our acts regarding what is right/good or wrong/bad (the “how” aspect). This being the case, phenomenography may be even an ideal medium for studying moral phenomena.

In order to collect descriptions of moral conflicts, I used participant observation and interviewed instructors on a project course given by the IS department of a university in Finland. The course and its functioning are described following.

**A DESCRIPTION OF THE CHOSEN PROJECT COURSE**

The name of the course was at that time the Development Project course, briefly, the DP course, and the aim was to educate students in project-work skills (e.g., group work, planning, leading, and communications) through the implementation of a project task for a real-life client. The pedagogical roots of the course lay in experiential learning [Kolb 1984] and project-based learning [Helle et al. 2006]. From the instructors’ viewpoint the yearly process of the DP course was divided into four phases: preparation, start-up, guidance, and follow-up (Figure 3).

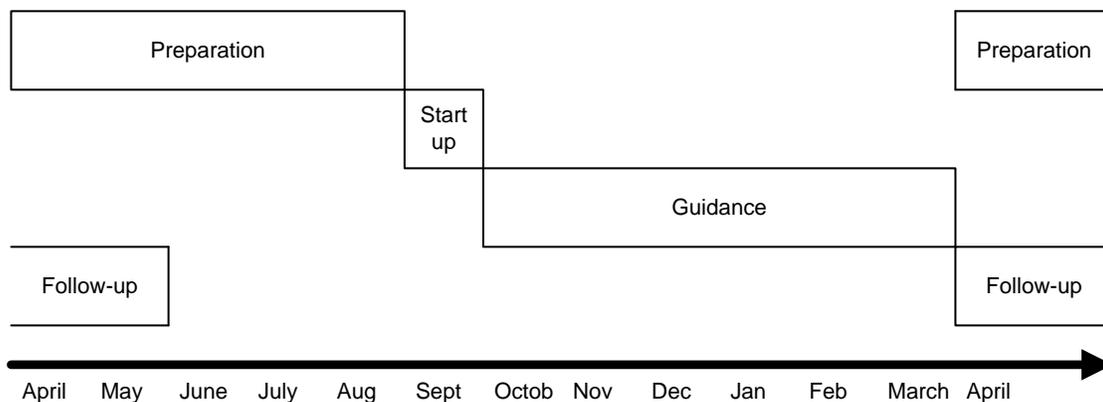


Figure 3. Phases of the DP Course.

**The preparation phase** During this phase the leading instructor selects the clients and students for the course and, together with the department head, allocates the instructors for the current academic period. In the Finnish system the academic period starts in September and ends in May. The leading instructor negotiates the project task with the clients and encourages them to adopt the role of a demanding customer as far as the student group is concerned. The client typically represents an IT firm such as a software house or the IT department of an industrial organisation, for example. The tasks range from extreme coding projects to developmental projects and research. They are typically ill defined and need to be redefined as the project progresses.

**The start-up phase** The project course starts at the beginning of September with lectures and orientation exercises for the students. The group is formed before the task-exhibition session

when the client representatives present the project tasks. The students then negotiate the tasks. By the end of the start-up phase all individual students will have been placed in groups and the project tasks and clients allocated to them. Similarly, instructors will have been nominated for the student groups.

**The guidance phase** The focal student project is implemented during the guidance phase, which starts with a meeting with the group instructor. Soon after that, the group and the client representatives start their collaboration with the first workshops and a formal board meeting. Each student is expected to use 275 hours in implementing the project task and 125 hours in demonstrating project-work skills, including project leading, group work, and communication skills. In total, a five-student group uses 1,375 hours in planning and implementing the client project. Each student is expected to practice the role of project manager for about one month during the process, which lasts from five to six months. A board consisting of two client representatives, two representatives from the student group (the project manager and the secretary), and the instructor make the redefinition and other decisions. During the collaboration, the role of the clients is to provide the students with guidance in terms of substance (e.g., technical guidance), and the role of the instructors is to guide the process (e.g., planning, reporting). The collaboration ends with a formal board meeting at which the results of the student project are accepted. The process of the student group is assessed and each student is given an individual grade. The client organisation pays the university 8,500 euros for the cooperation.

**The follow-up phase** Any formal complaints from students concerning their grades are dealt with during this phase, and experiences are discussed for the benefit of future participants. The follow-up and the next preparation phases overlap.

## DATA GATHERING

In accordance with the objectives of phenomenographical research, I collected the perceptions of a number of instructors. I did this in two ways. First, in order to get personal experience of the moral conflicts faced by an instructor I chose the participant-observation method and started to work as one. Second, I interviewed instructors in order to collect their perceptions of the moral conflicts they encountered in their work. Thus I gathered the perceptions of 12 instructors (including my own). Before becoming a participant observer I started to prepare for the course during the preliminary phase (1999-2000) of my research. I interviewed the leading instructor together with four former instructors on the course (three of them were male and one was female). It turned out that the leading instructor, who had started the project course in 1977 and had been responsible for it since, was to be my key informant. The research continued with an in-depth phase (2000-2001 and 2001-2002), when I participated in the course as an instructor and as a researcher. During the first year of this phase (2000-2001) I conducted participant observation [Jorgesen 1989] as an instructor and a full insider, overtly to identify the moral conflicts my colleagues and I would confront. During that particular period, I learned the job of an instructor together with a colleague, who was a DP student from the previous period. She and I both had four groups to guide and the leading instructor had one group, making nine groups altogether. I noted my observations in a diary and recorded interviews with my colleague and the leading instructor. During the second year of this phase I took responsibility for managing the course together with the leading instructor, and continued interviewing the instructors for that and the following academic year (2002-2003). I interviewed nine instructors, in addition to the leading instructor and my colleague, during the academic years 2001-2002 and 2002-2003 (four of these nine were female and five were male). Their age and gender profiles at the time of the interview were: 26 (female), 28 (female), 30 (male), 30 (male), 36 (male), 38 (male), 49 (female) and 52 (female). There was one male instructor whose age was not available. The age and gender profiles of the leading instructor, my colleague, and me were as follows: 54 (male), 24 (female), and 30 (male) (year 2000). The subjects were presented with the following task: "Describe what moral problems or issues worth noting from the moral perspective there are in an instructor's work." Usually I asked them to deliberate in more depth about what made the issue at hand morally relevant: "What makes this a moral problem?"

## ANALYSIS

I analysed the perceptions of these 12 instructors (including my own) from the phenomenographical perspective. This meant that I coded the main issues that emerged from the data in order to acquire an understanding of the questions that were raised by the subjects. I then started to group similar problems, that is to say I produced “pools” of moral conflicts. This coding phase was repetitive, and I studied the extracts numerous times. I used flap boards and the network views supplied in Atlas.ti software [Muhr 1997] to visualise the categorisation procedure, and I treated my perceptions and those of the other instructors equally in this process. It is worth noting that the phenomenographic researcher does not question the validity of the subjects’ perceptions but faithfully produces categorisations incorporating them all. In sum, I found two kinds of similarities among the moral conflicts: the themes differed, as did the intentions or objects of concern. At the same time as analysing the instructors’ perceptions I also analysed the perceptions of the students and the client representatives [Vartiainen 2006a; Vartiainen 2006b]. The resulting referential and structural aspects, together with the categorisations, are presented in detail in the following section.

## IV. RESULTS

The core problem area in the instructor’s work became visible in the form of inherent role strains and the need to react to conflicting expectations from all parties. Four inherent role strains emerged ranging from the organisational level to the personality of a particular instructor:

- Organisational objectives: upholding learning when the student group was trying to achieve results in the project task. Whose objectives are to be upheld, those that are beneficial to the client or those of the university to promote learning?
- Intervention in the group: the activeness of the instructor with the group. How specific should the guidelines the instructor gives to students be in order to maintain a professional distance from the group and avoid becoming a group member?
- Individual relations with the students: building up trust with students who receive the instructor’s feedback and by whom they are formally assessed. Without trust the instructor is not able to fulfil the role.
- The personality of the instructor. Should an instructor who perceives that his or her personality is not in accordance with what is expected change it?

These role strains are embedded in the results of the phenomenographical analysis. Next, the results are presented starting with the description of the referential and the structural aspects followed by the detailed descriptions of each category.

## THE REFERENTIAL AND STRUCTURAL ASPECTS

The referential or the “what” aspect (the rows in Table 1) describes the three upper-level issues the instructors directed their deliberation towards. As there are no priorities or developmental stages between these issues, this aspect is non-hierarchical in nature. The first issue, outside parties, concerns moral conflicts related to the parties surrounding the university and the project co-operation, namely local firms, university teachers and potential DP students. The other two, task and human issues, relate to the instructors’ work in terms of project cooperation. Although these issues are interwoven in the instructor’s work, it was found that some of the deliberations were directly related to human issues, and the physical presence of the affected individual was characteristic of these deliberations. The other deliberations related to the particular tasks of the instructor, such as assessing students and withholding confidential information, or to the role strains of an instructor engaged in guiding small groups. I called these deliberations task issues.

The structural, or “how” aspect (the columns in Table 1) denotes the development in moral intention from moral failure and the intention to do morally wrong, to maintaining relations and the

intention to resolve moral conflicts as well as possible. This being the case, the aspect is hierarchical in nature. Inclination to moral failure means that the instructor perceives a morally relevant decision-making situation [moral sensitivity; Rest 1984] and knows what is the right thing to do (moral judgment) but deliberates about failing to do it for some reason (failure in moral motivation or character). Those upholding egoistical interests typically prioritise moral values in these conflicts. Instructors in relations-directed conflicts try to find out what is the morally right thing to do in a socially complex situation. Concern for upholding duties and obligations and concern for the other are present in these deliberations.

Table 1. Categories of Moral Conflicts Perceived by Instructors

The structural aspect “how”		Moral failure	Relations-directed
		The referential aspect “what”	
<b>Outside parties</b>	Relations with parties outside the project co-operation	1. Possibility of benefiting by using information one is not entitled to use	4. Fair treatment of actors in the course environment
<b>Task</b>	Implementing the tasks given by the instructor	2. Possibility of negligence in the work of the instructor	5. Carrying out the work of an instructor
<b>Human issues</b>	Treatment of individuals and other human issues	3. Possibility of breaking down under pressure	6. Maintaining trustful relations and own personality.

The resulting categories are not equally weighted in that most of the conflicts are located on the relations-directed side, which represents the core problem area in the instructor’s work (including role strains and conflicts). The categories are described following, and some verbatim extracts from the interviews and from my diary are given. The instructors are referred to as follows in the extracts:

- The leading instructor
- My colleague
- My diary
- Instructor 1, 2, 3, 4, 5, 6, 7, 8, 9
- Instructor A, B, C, D (interviews from the preliminary phase)

It is also worth noting that the categories are presented in the form of the results of a phenomenographical analysis, and that they do not represent any chronological order; they are presented in the order of the structural aspect.

**MORAL CONFLICTS REPRESENTING MORAL FAILURE**

**Category 1: Possibility of benefiting by using information one is not entitled to use**

In this category, the role conflict is between being an instructor and being a business actor. There is a possibility of benefiting from using information the instructor is not entitled to use and which involves business contacts. It has happened that an instructor has supervised a group working with a client who is direct competitor or collaborator of the organisation he or she is involved with.

This being the case, the instructor may receive information that could be useful to these business contacts, although the confidentiality agreement forbids its disclosure and use. This problem relates to outside parties, as the instructor's business contacts are interpreted to be outside parties in relation to the project course. The following example illustrates the situation in terms of knowledge transfer:

Instructor 8: "Well, I collaborate with firms and, for example, if I'm an instructor and I have signed the confidentiality agreement. How can the information not be conveyed to another firm, with which I'm collaborating in research in the same area [as the group]? I have wondered whether it is at all possible to prevent the information transfer."

### **Category 2: Possibility of negligence in the work of the instructor**

The instructor's task in this category is reflected through egoistical deliberation. It is considered in terms of guiding small groups and collaborating with colleagues. Self-interest in relation to accomplishing these tasks, in the form of an inclination to avoid fulfilling one's obligations, emerged.

During the preliminary phase the leading instructor described experiences from previous years when there were instructors with little motivation to invest time and effort in teaching; some of them met their groups only rarely, for example. Similar doubts about the instructors' motivation emerged during the second year of my participation: the leading instructor and I were forced to address the problem of the possible dereliction of duty by some of them. Because they have free hands in their jobs—in terms of setting up their own guidance meetings with their groups and deciding what issues to cover during them, for example—they are able to choose how much they invest in the teaching. Consequently, it is possible that some may knowingly use their time for purposes other than teaching on the DP course (other teaching, leisure pursuits).

### **Category 3: The possibility of breaking down under pressure**

This category covers the personally held moral values and ego strength that are put to the test in the work of an instructor, which may involve doing something that goes against these values. Certain situations may test his or her ego strength in terms of considering what the right thing to do is.

In the first example, instructor 6 confronted a moral problem related to upholding her moral values. She was guiding a student group engaged on a project task for a client organisation whose activities she did not approve of. As an instructor, however, she thought she had to let the group have the experience:

Researcher: "Is this a moral problem, and if so, what makes it a moral problem?"

Instructor 6: "Well, yes it is. I have a role, and I'm supposed to bring students to work in the kind of organisation I would not wish to work in."

Researcher: "What makes it a moral problem?"

Instructor 6: "In that particular role I accept things I would not personally accept. Because it's about the group's experience, I close my eyes."

The second example is about having the strength to persist in what one perceives is the right thing to do. This may emerge when instructors are expected to give honest and open feedback, or when they may not be mentally capable of fulfilling their duties because of mental uncertainty. For example, in one of my group-assessment reports I had to take a stand on the subject of grading the individual group members, and I had mentioned the irresponsible actions of one student. After the assessment meeting I confronted the particular student in the project space and had a short discussion with him. The confrontation made me think about moral conflict related to

ego strength: the fact that I might later have to confront the students I had subjected to punitive measurements could affect the grading process:

My diary: "How should I relate to this individual as a human being when I'm subjecting him to punitive measures because of his actions? ... How can I confront these sanctioned individuals? To what extent does my fear related to this affect the grades that I give? At the back of my mind these issues affect my thinking, although I would like to make decisions objectively and calmly like a state officer going about his work. I have to stick to my position and the duties involved even though it builds a wall between my students and me."

## RELATIONS-DIRECTED MORAL CONFLICTS

### Category 4: Fair treatment of actors in the course environment

The concern in this category is with the fair treatment of the actors involved. Potential client organisations and other firms affected by the course, students applying for a place on it and potential instructors are the parties in question here. There is a threat to justice when a representative of one party is treated in a way that could not be universalised to all its representatives. Each party is considered in turn in the following.

To start with the selection of students is the course is obligatory and they are accepted on it if they have completed the required preliminary courses. A student without adequate background knowledge might not be able to carry out the project task, and might even prevent other group members from acquiring the relevant skills. Similarly, if a student does not have time for the course, the group work could suffer. During the selection process at the beginning of the first and second years the leading instructor and I confronted moral conflicts in making decisions on the so-called borderline cases, when a student may not have completed a required course but had other background experience, in working life for example. Because the rejections and selections were the result of intuitive deliberation and there were no clear guidelines, I interpreted this to be a moral conflict.

The question of the just treatment of university teachers arose in the context of allocating staff to the DP course and nominating teachers as DP instructors. This type of conflict emerged at the beginning of one course when we had a shortage of instructors. The department head decided to order some teachers to do the work. As a result, during the course the leading instructor and I confronted the most troublesome and painful moral conflicts related to colleague relationships: we were forced to deliberate about the work ethic of a number of colleagues, and about their suitability for this kind of work. It appears that not all university teachers are suited to small-group guidance, and personal qualities and willingness should therefore be taken into account in selecting them for, or even ordering them to do the job of a DP instructor.

Moral conflicts related to the local business community emerged in the way that the course fosters co-operation with numerous local (IT) firms, and such co-operation may cause instability in the markets in at least two ways. First, regular cooperation with particular IT firms may make the DP course easier to manage. However, it may not be considered fair by other firms because the university would thus be seen as favouring the former by offering them cheap labour. Second, student groups work on projects that could be supplied by local firms, whose territory the course may thus invade. The fact that the student projects produce valuable results is, according to the leading instructor, problematic from the moral viewpoint:

The leading instructor: "It is not in accordance with the university policy or morality if we invade someone's territory, but we should teach people ... we should not compete with firms about the [project] tasks. This is quite a big question that we're forced to consider. That's why I want to promote the idea that learning is put first. I don't want any cost-benefit thinking here."

Some client representatives may set conditions, which would mean giving them or their future student group special treatment. Adherence or non-adherence to these conditions comprises a potential moral conflict, as treatment of clients should be fair. For example, the leading instructor felt that fair treatment was at stake when the client representatives wanted to influence the allocation of instructors to the groups (a certain instructor should or should not guide the group).

### **Category 5: Carrying out the work of an instructor**

This category involves the carrying out of an instructor's duties and obligations. As the conducting of these work tasks affects other parties involved in the project collaboration, the deliberations are relations-directed. The other parties include students, instructors, and client representatives. The following themes emerged from the instructor's experiences:

- Inherent role strains in an instructor's work (learning vs. results, activeness of instructor);
- Conflicts with the other roles the instructor may have;
- Confidentiality of information;
- Assessment.

### **INHERENT ROLE STRAINS IN AN INSTRUCTOR'S WORK**

Two morally problematic types of role strain regarding the work tasks emerged (the other types are reported in the section on human issues). The first of these concerned the setting up of the academia-industry relationship, in terms of whose objectives are to be attained is those of university or those of the clients. Second, there is conflict involved in keeping a professional distance from the group one is guiding.

To start with the first of these, collaboration setting between the university and the firm is a potential source of role conflict as the university promotes learning and development and the private firm aims to benefit from the collaboration. On the one hand, the learning aspects include the university's institutional role as an educator and the instructors' duties to provide the students with long-term knowledge. On the other hand, the client collaborates in order to gain benefit and its representatives also have expectations concerning the instructor's role in getting the project completed and producing good results. These two aspects are stressed to varying degrees. This has moral significance, because stressing one aspect may affect the other aspect negatively, and for the instructors upholding learning (concentrating on the project process rather than the results) was perceived as a fundamental duty. The leading instructor considered it his duty to defend the learning aspects, because without them student projects in a university setting would become similar to regular jobs. He thought this would be a negative consequence because experiments that support students' learning should be allowed in this environment:

The leading instructor: "Perhaps we have come closer to real work. But is it right? Is it worth achieving? Will this become a job among other jobs? This is a unique environment in which the students can learn and develop experimental thinking . . . Here, if it wishes, a student group may produce a product . . . with two kinds of equipment to observe which was better. . . . We should be able to do these kinds of experiments. It shouldn't be too serious. . . . This isn't a nice hobby any more . . . this is serious business nowadays . . . it's not about the project payment; it's about the working time you need to spend. It's far more expensive for the firm."

For example, a group (and its instructor) may find a conflict between efficiency and learning; in an extreme case, a talented programmer who concentrates on programming does not learn anything about managing the group, and the others do not learn anything about programming. This may lead to a very good result and a very satisfied client, but the goal of providing all students with experience of a variety of tasks is not achieved.

Second, experienced instructors referred to role strain during the preliminary phase. They defined their work roles in terms of metaphors expressing degrees of activeness. Activeness determines how much the instructor intervenes in the actions of the group, the extent to which he or she gives clear guidelines and hints, and the extent to which he or she asks questions of students. Two of the metaphors used concerned dog teams and mothers and children, as described below. The leading instructor introduced the dog-team metaphor: the instructor rides at the back on a sleigh driving the dog team, shouting hints and advice to the dogs:

The leading instructor: "The basic idea of guiding is contained in the model of riding with a dog team ... the instructor is on a sleigh at the back, shouting hints, which are more or less understood and which steer the team in the right direction."

According to this metaphor, the rider, i.e. the instructor, should avoid taking the leading position and giving the group instructions that are too specific. As the leading instructor said, the instructor may fail by taking the role of the leading dog — starting to plough the snow at the front. This may happen if the instructor is an expert in the field covered by the project task.

The second metaphor was put forward by instructor D, who described his relationship with the group as that between a mother and her child: the mother does not need to be constantly in the same room as the child, but the child should be aware of the presence of the mother. In the same way, it is good for the group to be aware that the instructor is available, but he or she does not necessarily need to be constantly by their side.

The instructors used the above-mentioned metaphors in order to find a balance between giving direct instructions and supporting the students' learning. This dilemma was a regular topic in the instructors' meetings, and novice instructors learning the job found it particularly hard not to issue direct instructions. This was the case for instructor 4, who considered this issue a moral problem because she had the habit of providing her groups with down-to-earth instructions:

Researcher: "What makes this a moral problem?"

Instructor 4: "Well, it is, because — well I feel that in guiding, if you provide the group with instructions, or guidelines, not even instructions but rough guidelines, it's considered worse than if the group is left alone in the dark."

Providing student groups with the opportunity to learn from their own experience may, according to instructor 7, mean taking time resources from the substance work and from learning other things. But if she drew the students' attention to the faulty plan, they would not learn from experience what it means if something goes wrong:

Instructor 7: "Yes. Let's use the phase model as an example about what I just said. If the instructor perceives that the phase model is wrong, so the instructor should let it be wrong and wait for the students to realise that it's wrong. This means that if we wait for the students to realise it, it may take a month or more. ... And this means that it's time taken from the substance work. ... Or, if we intervene right away and tell them that the phase model is wrong, they won't learn from their own experience, but they will have time to learn other things."

## **THE INSTRUCTOR ROLE IN CONFLICT WITH OTHER ROLES**

Other roles inside and outside the university conflicted with the instructor's role. Inside the university research and teaching obligations compete for time resources, and the instructor may even be a fellow student. From outside the pressure comes from friends, for example. The emergence of these role conflicts is described in the following, and examples are given.

A DP instructor is a university teacher performing two separate roles: that of a researcher and that of a teacher. Each role or work task requires time resources, and instructors involved in research and other teaching activities in particular found themselves having to prioritise. I also

had to face this problem. Instructor 1, who wanted to do his work well, described his prioritisation problem as follows:

Instructor 1: “Well, for example, yesterday we had an instructors’ meeting, didn’t we? I couldn’t go to it because we had a lecture [for another course] at the same time. Then I had this dilemma — which should I choose? I wasn’t lecturing, but it was a start-up lecture, which all the lecturers were supposed to attend. ...”

Researcher: “What makes this a moral problem?”

Instructor 1: “Well, you work here, and you want to do your work well. You have different tasks. If you’re asked to do two things at the same time, which of them do you choose? One will not get done. That’s the problem.”

My colleague was a DP student from the previous year. When she discussed issues with her students as a comrade they told her things they probably would not have told an ordinary instructor. In such a case, could she as an instructor use the information she received as a fellow student? For example, in an assessment situation she might feel duty bound to do so. She deliberated on this conflict, as the following extract illustrates:

My colleague: “... well, I’ve had some freeform discussions with these students, and the borderline between talking to them as a fellow student and talking as their instructor is vacillating. ... as a fellow student I can’t use the information against the group, for example if I have heard that he [a student in a group] has been at home for five days and has done nothing.”

Instructor 1’s close friend, who was working for an IT firm, asked for certain details about a student under his guidance. This created a morally significant conflict between the roles of friend and instructor. With a friend one should be able to discuss openly, but one’s duties as an instructor may rule out some subjects:

Instructor 1: “A friend of mine’s working for a local IT firm. He asked me about a group member [of a group I was guiding]. He was looking for someone writing a thesis or something like that. He asked what kind of a person this student was. Then I started to think about what I could tell him. As I see it, there’s a clause in the contract that prohibits providing information. ...”

Researcher: “Was this a moral problem?”

Instructor 1: “Yes. Well, I was a good friend, and with good friends you have no secrets and you can discuss anything.

## **CONFIDENTIALITY OF INFORMATION**

Instructors find out information about their students when they observe and assess their actions. In some cases, often during private discussions, they are entrusted with very sensitive information about personal problems. In the spirit of collegial support the instructors discuss problems with student groups and talk about individuals. During the first and second years I perceived that defining the borderline between what could and should not be disclosed to other instructors about students created a moral conflict because the instructors needed collegial support in their work, but were uncertain about what could be disclosed to their colleagues.

## **ASSESSMENT**

The central university administration requires that students on the DP course are graded on a scale from 1 to 3 (3 being the best grade). The focus of the assessment is the development of group processes as in the group work, leading, and communications. At the end of the course each party — the student group, the client representatives and the instructors — write a reflective

report about the functioning and development of the student group. The group, its instructor, and the leading instructor read the reports before meeting for a final assessment discussion. Once all the groups have had this discussion the instructors meet to determine the grades for each group. It is here that difficulties arise when the instructors transfer qualitative assessments to a quantitative scale. Grading the groups and giving individual grades requires knowledge about the group and its members, but the instructor's role as an outsider creates uncertainty in the grading process. For example, one instructor specified the reasons why assessment is considered hard:

Instructor A: "The instructors have different backgrounds, different experiences, different visions — it's not an easy task to guarantee that all assessments relating to 12 groups are just. Producing examination results is easier because everything in the examination paper — you assess with regard to it. The project consists of discussions ... you're compelled to provide a grade ... I think this is the hardest issue ... Giving a grade is a kind of moral problem. To some extent it is, at least. What is just and what is not."

During the first year of the in-depth phase, my colleague and I were concerned about the assessment procedure: how could we assess students when as instructors we were outsiders in our relationship with our groups? My colleague had been a student on the DP course the previous year, and although she was familiar with the assessment procedure she felt that the distance between her and the reality within the project created a problem:

My colleague: "How should I relate when I feel I'm one kilometre away from reality? In practice, how can I really say what I think and what these issues really are about? Because I couldn't do it last year, and at that time I was a member of a project team."

### **Category 6: Maintaining trustful relations and own personality**

This category concerns human relations, and in particular the role strains faced by instructors in building up trust with students and maintaining their own personality, and in their relations with other instructors. The following themes emerged from the instructor's experiences:

- Role strains in building up trust with students
- Role strains connected with the instructor's personality
- Trustful relations among instructors

### **ROLE STRAINS IN BUILDING UP TRUST WITH STUDENTS**

The third type of role strain (the previous two are discussed previously) in an instructor's work relates to human relations: Instructor has the duty to educate students, provide them with feedback, and assess them. At the same time he or she has to foster trustful relations and encourage them — together with him or her — openly to reflect on the project process and the problems they are going through. Trustful relations between instructor and group were found to be essential for successful guidance work. Any ill treatment or disrespectful act on the instructor's part would diminish trust (and vice versa). What students may fear is that if they disclose a defect or a problem to their instructor they make themselves vulnerable to negative feedback and a lower grade. However, the task of the instructor is to encourage students to understand and take on board the opposing viewpoint. They should adopt the practice of using their instructor as means and a resource for developing their working processes, and this requires them to disclose defects and problems openly. The instructors, in turn, find giving feedback to students and intervening in their actions very sensitive tasks. The following gives some examples of the instructors' perceptions.

Instructor 3 described her observations during a group-formation session. She wondered whether she should encourage some students to make acquaintance with a student who was left alone:

Instructor 3: “Should I have said to the other students, ‘Go and talk to her’? Or should I have gone to talk to her? I thought it was wrong to leave her alone. ... But I didn’t intervene at all.”

Researcher: “Is this a moral problem for an instructor?”

Instructor 3: “Well, yes, in the way that you observed something that was wrong. But this person would have been amazed, or even hurt, if I had asked someone to talk to her.”

According to instructor 9, the student’s personality is the object of the teaching. Therefore, there is a conflict between the instructor’s societal duty to produce competent project workers and to respect the student’s personality during the process:

Instructor 9: “We have a responsibility to produce competent people. It is, well, a moral problem related to this educational duty, in a way. Well, we have a sort of societal duty to uphold here. And then, there’s a moral problem, well, how you treat these individuals, these students. This is why it’s a sensitive thing this project work. These individuals’ personality is the object of treatment. .... In every move you make you have to choose your words and acts carefully.”

Intervening in the students’ actions was considered extremely hard in cases in which the situation in the group was in some way negative or deficient, but the intervention might worsen the situation. As an example, during the preliminary study, instructor B talked about a previous group that included a student who was deviant in a certain way. The instructor was worried about how this student would manage on the course. However, as the instructor saw the situation, the student received support from within and outside of the group. It was impossible for him to bring up the issue with the student because it could have had negative consequences — in fact he thought it would have made the problem worse. It seemed impossible to do anything: “You just can’t ... all in all, you don’t know what to do” (extract from an interview with the instructor). The instructor was convinced that a member of the group would raise the issue if the student could not do his share. Finally, “...in spite of these differences they were able to act quite consistently towards the client,” and the whole group completed the course.

A private discussion with a student made me think about the question of trustful relations with one’s group. The student told me about a conflict inside the group: there was a student who did not complete the work tasks assigned to him. This information amazed me because I had not anticipated this kind of problem — everything seemed to function very well. I also started to think about my working habits: striking a balance between practical guidance work in building trustful relations with students and getting the real information seemed to be troublesome for me. During the guidance meetings I sometimes asked individual students in turn to describe what they had done previously. However, I sensed that, as the students were adults, that kind of questioning would make them think that I did not trust them. I therefore generally refrained from this practice; in this particular group it was not successful.

### **ROLE STRAINS CONNECTED WITH THE INSTRUCTOR’S PERSONALITY**

Instructors may be faced with situations in which they question their own personality, limits and defects, and their own moral values. Instructor 4 recognised that her behaviour and attitude did not always match what she considered appropriate for an instructor, and once in a while she found herself in major conflict with students. She therefore deliberated about changing her personality:

Instructor 4: “It will be quite an internal struggle in terms of who I really am in my own personality. And given the feedback I’ve received, I might have to play more of a role than previously — even a false role. ... to protect my personality — my sensitivity, the internal part of me. ... I’m struggling with myself if I want to be like all the others.”

A couple of the informants who did not fit into the role had painful experiences of being a DP instructor, and as a consequence they moved to other teaching jobs or to another work place. However, not all of those who left the DP instructor's job were unfit to do it: the good employment situation both in the IT field and at the department affected the turnover of staff on the project course.

### **TRUSTFUL RELATIONS AMONG INSTRUCTORS**

Instructors form a collaborative group and hold frequent meetings to discuss their teaching objectives and problems with the groups. The leading instructor steered the discussions during the first and second years, and because of his long experience he dominated the meetings. Some of the meetings were turbulent, especially during the second year, and instructor 9 considered it a moral problem that not all instructors in the team received equal support:

Instructor 9: "Not everyone's problems are dealt with equally there in the instructor team. Some people don't get the space and support that others do."

Researcher: "Is this a moral problem?"

Instructor 9: "Well, yes it is in that the instructors come there wanting to be heard and then they're ignored. So, in that way yes."

The same instructor considered trust among the instructor team to be morally significant:

Instructor 9: "In my view, well, a basic moral question in the instructor team concerns the preservation of trustfulness. It is absolutely vital for us to keep this up. It's an unconditional prerequisite, a sort of baseline condition, that we can deal openly with matters and even have these outbursts."

During the second year the leading instructor and I confronted the following moral conflict. We observed that not all the instructors were coming to the instructors' meetings, and as a consequence some groups did not receive important information, and we suspected that some instructors were giving insufficient guidance. This led us to deliberate about bringing up the problem with the instructors and showing respect toward our colleagues. On the one hand, bringing the problem out into the open might have resolved the situation — but on the other hand it might have offended the people concerned deeply if we had misunderstood the whole thing. During the same year there was some bullying in the group. Guiding small groups was stressful and there was a need for emotional relief — which occasionally made our meetings very emotional. During these discussions some instructors exhibited signs of harassment toward their colleagues: gender-based jokes were made, for example, and remarks based on another instructor's personality were bandied about. In later years relations within the instructor group became dilemmatic as there were unsolvable conflicts, power struggles, and intense infighting. Some of the instructors decided to leave their jobs (they moved to other organisations or changed jobs inside the department), and some of them had to take sick leave (in my view at least partly because of the intense infighting). Conflict resolution in these cases was transferred to the department head.

### **V. DISCUSSION**

This study revealed moral conflicts perceived by instructors on a project course in information systems education. The results support the view that teaching is an inherently moral activity [e.g., Fenstermacher 1991; Joseph and Efron 1993]. It was not only the instructor's work as such and his or her relations with students and fellow instructors that were found to be morally problematic but also the collaboration with firms. Participant observation and interviews were used in order to analyse the perceptions of the instructors teaching the chosen project course.

The results of this study are reviewed in the following. First, the classification of moral conflicts (the referential and structural aspects) is described in the light of the existing literature. The focus then shifts to the environment of the project course under study, the professional morality of the DP instructor, and the role strains that emerged. The implications in terms of tackling the role strains and with regard to future research are then presented. Finally, the study is evaluated.

### THE CLASSIFICATION OF MORAL CONFLICTS

As a result of the phenomenographical analysis six categories of moral conflicts were derived along two dimensions, the referential (what) and the structural (how) (Table 1). On the referential dimension such conflicts related to

- outside parties (benefiting from the instructor's own business contacts, fair treatment of actors in the course environment);
- the task (negligence on the part of the instructor, the inherent role strains in objectives of parties and activeness of instructor, prioritising the university teacher's work tasks, confidentiality of student information, assessment); and
- human issues (pressures involved in the instructor's work, role strains in building trust and maintaining one's own personality, and relations between instructors).

This division resembles the two concerns expressed in the managerial grid: concern for production (management) and concern for people (leadership) [Blake and Mouton 1978]. Division to task, human, and outside parties can be interpreted from studies of Boyd [2001], Barki and Hartwick [2001], Semprevivo [1980, 114], Brittain and Leifer [1986], and Culnan [1987]. For example, Barki and Hartwick [2001], who investigated interpersonal conflict in information-systems development, incorporated human aspects (e.g., individual needs, interests, team leadership), and task (e.g., project resources) and organisational characteristics (e.g., culture) into their literature-based framework.

The structural aspect of moral conflicts concerns the mode of intention and the development of moral sensitivity. It refers to

- moral-failure related moral conflicts (egoistical deliberation, breaking down under pressure); and
- relations-directed moral conflicts (fulfilling one's duties and obligations, showing concern for others).

The structural aspect relates to the mode of intention in moral behaviour. Whereas the referential aspect is connected to moral sensitivity, to the identification of moral conflicts [Rest 1984], the structural aspect concerns the intention to pursue moral failure or success, i.e., to do what one perceives to be morally wrong or right. Moral-failure conflicts involve either the possibility or the reality of moral failure, and are characterised by temptations to benefit from information one is not entitled to use or to neglect one's work duties. Pressure to conform to immoral values and weakness of ego strength also emerged. As a consequence, when an instructor — the leading instructor in many cases — observed moral failure in another instructor, he or she confronted a relations-directed moral conflict concerning how to react to such behaviour. Similar problems have been found to occur among Finnish teachers [Tirri 1999]: when one observed a colleague acting in an unprofessional way she had to decide whether or not to intervene. These findings show similarities with Packer's [1985] definition of exogenous conflict, in which a moral agent has to react to unanticipated injustices and wrongs, with Gillian and Krebs' [2000] findings on combating immorality as a subcategory in subjects' perceptions of moral dilemmas, and with Myrsky and Helkama's [2007] finding on low sociocognitive conflict or temptations when a person's desires go against internally accepted moral standards. It could be concluded that there is in relations-directed conflicts a genuine willingness to achieve moral success, to uphold what one perceives as morally right, and to search for a morally right course of action in one's relations with the others.

## THE PROJECT COURSE IN ITS SURROUNDINGS

In terms of university-industry relations, the basis of the existence of both parties differs, which causes inter-organisational conflicts that become visible in negotiations concerning collaboration with possible clients, for example. Conflict arises from the differing objectives, duties and obligations the parties perceive in their work, and from their roles. Profit making, the fiduciary responsibility of a corporate manager, and the “seek and teach the truth” responsibility of university representatives [Kenney 1987, 129; Brown 1985, 12] clashed in the case of the DP course. Although it is acknowledged that private firms have social responsibilities, profitability, a responsibility of business [Carroll 1999], drives all their actions. Moreover, although the DP course is vocation-oriented, the objectives of the clients and the university nevertheless conflict: the clients are concerned about the results and other benefits (such as the employment of students) and the university is concerned about learning and providing students with long-term knowledge. In addition, traditional university principles and standards, such as questions related to the ownership of research results and secrecy issues, are not and indeed cannot be upheld in the case of a project course run in collaboration with private firms. The literature shows that these kinds of conflicts in university-industry relations are not rare: research priorities and values, the nature of conducting research, and communication and secrecy standards differ between university and industry in R&D collaboration [Stankiewicz 1986, 27]. The turnover of clients was considered ideal in the case of the DP course in that it would prevent the institutionalisation of relations [cf. Kenney 1987, 134]. Although lasting relations with a project course is an advantage for a client organisation, on the larger scale, institutionalisation would cause instability in the markets and narrow the business lines included in the collaboration. Offering “cheap labour” to certain firms would not be in accordance with the notions of the fair treatment of local firms and how universities should collaborate with actors in society.

## THE PROFESSIONAL MORALITY OF THE DP INSTRUCTOR

The professional morality of the DP instructor is encapsulated in Oser's [1991] generic definition: what is needed in addition to upholding the teacher's core values, justice, caring and truthfulness, and professional know-how, is trustful relations among all parties (clients, students, instructors). Trampling on any of these core values decimates trust, which is a necessity for functional small-group guidance, instructors' mutual collaboration, and collaboration with firms. The complexity of maintaining relations in an environment like the DP course became visible in the form of role strain. Such strains occur on four overlapping levels: organisational objectives, the group's relations with its instructor, the student's relations with his or her instructor, and the instructor's personality. On each level the professional instructor has to find a proper balance among the diverging expectations. Figure 4 summarises the four inherent role strains together with conflicts between the instructor's role and his or her other roles inside (researcher, university teacher, fellow-student) and outside (friend, business actor) the university. Role strains and role conflicts are reviewed in the following paragraphs.

Conflicts between organisational objectives filter down to the instructor's daily work. Although the instructor is responsible for the process and the client for the substance work, the instructor may emphasise these two aspects to varying degrees. It was suggested that the functioning of a group should not be considered a measurement of the instructor's professional skills (as an IT professional or as a professional teacher), but in practice there is a tendency to take such an attitude. The “work project” attitude, focusing on fulfilling the client's needs and completing the project task, was common among the students, and it was the responsibility of the instructor to instil the “study project” attitude in them, to encourage them to reflect on the work they had done and to learn from it. Similar problems concerning pupils' negative attitudes towards learning have been identified as a moral dilemma in Finnish teachers' work [Tirri 1999].

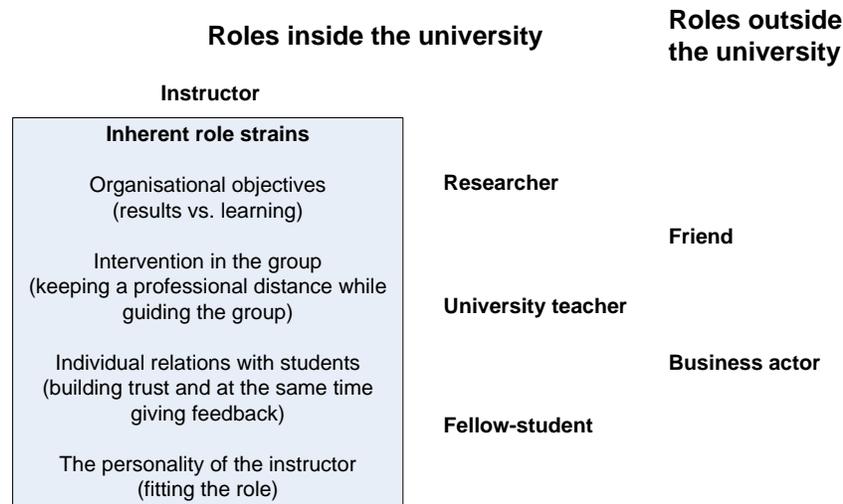


Figure 4. The Instructor’s Inherent Role Strains and Role Conflicts in Guiding Small Groups

Activeness and passiveness in supporting the learning process mean that the instructor should keep a proper distance from the groups in order to make it possible for them to learn independently from their experiences. Instructors are therefore expected to provide students with rough guidelines, to encourage them to reflect and to find the answers they need by themselves. The more direct the guidelines the instructor gives, the more involved he or she is in the functioning of the group to the extent in an extreme case even of becoming a group member. Instructors who have business contacts with the client organisation might be more inclined to exhibit this kind of behaviour.

Supporting reflective deliberation by building trust means that instructors should develop relations with their groups that make it possible for the students openly to discuss the real state of their project process; in that way the instructors are better able to support the group and to make a fair assessment at the end of the course. Providing students with genuine feedback while fostering trust at the same time requires insightful footwork.

The personality of the instructor comes into play if he or she becomes aware of having a personality that is not in accordance with what is expected of a professional instructor. In such a situation he or she may start to wonder about changing personality, or about changing jobs.

A reason for balance-seeking in these role strains is to be found in the learning objective of the DP course: it is to acquire project-work skills, and 85 to 90 percent of the assessment concentrates on the process (e.g., group work, planning, leading, communication) whereas the results of the project are worth 10 to 15 percent. Justifying the grades requires genuine information about the work processes in the groups, and this was dependent on the relationships between the instructors and their groups. In addition, in finding a balance in grading their own student groups, the instructors needed to draw comparisons with information provided by other instructors on the progress of their respective groups. If the group of instructors was dysfunctional, as it appeared occasionally to be, the assessment work became turbulent.<sup>3</sup> Indeed, the role strains and assessment obligations explain the demanding nature of the instructor’s work. The experienced instructors found the conflicting expectations easier to cope with and less stressful than the novices. Another factor causing stress was the apparent “learning-by-doing” approach to the instructor’s work, and the education of novice instructors started, in effect, when they met their students at the first guidance meetings. In most cases they had no teacher-training

<sup>3</sup> Moral conflicts within the group of instructors were found to have similarities with the conflicts in the student groups (cf. Vartiainen 2006a).

background. Furthermore, a novice instructor without practical experience of the IT field finds it hard to meet the expectations of students regarding knowledge of working life. For some of them this made the final assessment a nightmare.

In addition to the inherent role strains were the conflicts between the different roles the instructors had: researcher, university teacher, fellow student, business actor, and friend. When the requirements of two roles conflicted they had to make a choice (e.g., if a friend asks for information that the instructor should not divulge).

Given the definition of a moral dilemma as an insolvable situation [Hill 1996; Nagel 1987], such situations were confronted in human relations, and they closely resembled the role strain of building trust with students. Intervention in students' actions that could have worsened the situation dramatically (the deviant student) and intervening in one's colleagues' actions (suspecting them of negligence in their work) were the most challenging moral conflicts, and in my opinion, the closest to what we understand as moral dilemmas.

**IMPLICATIONS FOR TEACHING PROJECT WORK**

**Recommendation 1: Promote a sense of obligation in industry-academia student projects.**

The promotion of values is used as a managerial means of developing organisational cultures and operations [see Martinsuo 1999]. As far as industry-academia student projects are concerned, the promotion of values or a sense of obligation might help instructors in reducing role strains in their work and give all parties concerned clear collaboration standards. According to Secord and Backman [1964, 494], if obligations are given equal priority they cause strain, and therefore role strain might be reduced if a hierarchy of obligations were produced. The following hierarchy was devised for use in project courses resembling the DP course (Table 2). The obligations came partly from my observations of actual conflict resolutions in the course context, and partly from logical inference based on the results of this study. It is worth noting that these obligations emerged from this particular course setting in which the emphasis is on acquiring project-work skills. It is assumed that promoting identification with these obligations might help instructors — in terms of both managing the course and guiding small groups — to control this kind of complex social system. Ideally, the obligations could form a social contract between all parties — clients, students and instructors. Each principle and value is considered next.

Table 2. Obligations of All Parties in Parallel with the Role Strains on the Instructors

Obligations (of all parties)	Instructors' related role strains
1. Respect for the individual (Kant's categorical imperative)	Maintaining trustful relations in order to obtain information on the group processes and at the same time to give feedback
2. The promotion of learning and development (fundamental values of educational institutes)	Support independent learning by refraining from providing students with excessive guidance.
3. The promotion of partnership (university-industry collaboration, client satisfaction)	Support learning while supporting students in implementing the project task

Respect for the individual is based on Immanuel Kant's second version of the categorical imperative [Kant 1993, 95], which states that a moral agent should treat himself and all others never merely as a means but always at the same time as an end in himself. Respect for the individual stands as a fundamental basis for any kind of cooperation, and no other obligation may override it. For instructors, this obligation is paramount in building up trust with students. If

instructors violate this obligation, they may fail in encouraging students to engage in reflective discussion.

The promotion of learning and development reflects the fundamental values of any educational institute [Kenney 1987, 129; Brown 1985, 12], and in industry-academia relations these values are prioritised above what is beneficial to business. Whereas the first principle aims to safeguard the individual student, the promotion of learning and development aims to safeguard the organisational objectives of the university (research, teaching). From the instructor's viewpoint, these values emphasise the importance of empowering students to follow an independent learning process, in which the instructor is an outsider providing support by offering rough guidelines. It is a question of supporting a student group without becoming a group member. The promotion of learning and development should not infringe the principle of respect; providing a group with feedback, for example, should be done in a way that upholds this principle.

The promotion of partnership means that the objectives of business and industry are respected and the significance of client satisfaction is emphasised to the students. This implies that profitability, a fundamental business value [Carroll 1999], is accepted and therefore that the client objectives are also accepted. For their future careers students have to understand the significance of client satisfaction, and therefore they should be provided with a project experience resembling industry projects as closely as possible. This is why close collaboration with IT firms is needed. Clients should be encouraged to be demanding — while at the same time taking into account the fact that the students are novices in the field. From the instructor's viewpoint, finding a balance between the objectives of the organisations involved is a role strain. The students need to learn from their own mistakes, but the client might benefit if the instructors speeded up the process by giving them specific instructions concerning the content of the project task in question.

**Recommendation 2: Develop awareness of the relationship between the instructor and the group.**

The role of instructor and the duties related to it should preferably be discussed at the very beginning of the guidance process. In practice, in some cases the relationship became dysfunctional and there was a need for closer examination. One aspect is the activeness or passiveness of the instructor: the more he or she intervenes the less independent the work process of the group becomes. However, instructors should keep an eye on the functioning of the group in order to be able to guide it when called for. In order to develop awareness of the relationship, five levels of instructor intervention were determined for the DP course [Tourunen and Vartiainen 2002]:

1. outsider;
2. observer;
3. inspirer;
4. participant; and
5. decision maker.

Instructors as outsiders are definitely unaware of the inner functioning of their groups, but are dependent on the information the members disclose about the work process. They are able to observe and to assess the performance of the group in board meetings, guidance meetings, and individual discussions with students, for example, and to inspire and encourage students in many ways. Instructors who provide down-to-earth guidelines and hints concerning the project process or the implementation of the task are participants. Then again, if they observe that a student has major mental problems and is ignored by the other group members, they may intervene and lower the pace of work. In this kind of case, the instructor makes decisions on behalf of the group. We found a few examples of this in practice. Our conclusion was that ideally the instructor is an observer and an inspirer, but sometimes has to participate. This five-level framework was used in the DP course during the developmental discussions and in the final assessment session with a

view to provoking discussion about the relationship between the group and its instructor, and in order to get feedback on the guidance process.

**Recommendation 3: Maintain a trustful relationship through complete discussion.**

It is suggested that full and open discussion is a prerequisite in managing role strain in the building up of trust, providing students with feedback and assessing them. In order to develop their conflict-solving strategies, instructors should become aware of the strategies they use and should aim to develop their social skills accordingly. According to Oser [1991], discourse ethics as described by Habermans [1984, 1990] is the most appropriate strategy to adopt in conflicts: all parties involved are able to make themselves heard and each one presupposes that the others are equally open to practical reasoning. This kind of strategy presumably supports the maintenance of trust between the instructor and the group. Oser found that teachers' moral dilemmas could be reduced to conflicts between justice, care and truthfulness, and put forward five strategies for their resolution:

1. avoiding;
2. delegating;
3. single-handed decision-making;
4. incomplete discussion; and
5. complete discussion.

Avoidance represents the least responsible course of action, as the teacher tries to resolve the situation by not facing it. In delegating, he or she accepts responsibility for dealing with the situation but tries to share the burden or shift the responsibility to some authority (e.g., the principal). A teacher employing single-handed decision-making takes the problem into his or her own hands and makes decisions in an authoritarian manner, while incomplete discussion involves giving explanations and reasons, and taking responsibility; this teacher knows that students are able to balance justice, care, and truthfulness — if it is well reflected. Complete discussion is the most responsible course of action and is further along the discussion continuum; the teacher assumes that each concerned party is a rational human being who is capable of balancing justice, care and truthfulness. Interpersonal conflicts are perceived as a starting point for social learning, for understanding what responsibility and justice actually mean. Oser concludes that the complete discourse strategy implies better teacher-student relations and an improved school culture. This would also be the case in university project courses, in which the instructors' way of resolving conflicts (and their behaviour in general) affects the students' behaviour and spirit. If an instructor genuinely strives to uphold justice, care and truthfulness, and to adopt a strategy of complete discussion, he or she is more likely to maintain trustful relations with parties involved (given that the other parties genuinely want to uphold trust). Setting an example by taking a discursive approach in conflict-resolving situations and in other acts would enable instructors to make a project course an environment for social learning.

**RESEARCH IMPLICATION**

Moral conflicts in university-industry relations: The literature shows that conflicts in university-industry relations are not rare; research priorities and values, the nature of conducting research, and communication and secrecy standards differ between university and industry in R&D collaboration [Stankiewicz 1986, 27]. These conflicts have attracted little interest from the moral viewpoint in IS. As moral conflicts in this study emerged as critical, it is assumed that other collaboration forms such as training programmes, research-centre activities and industry advisory boards [Watson and Huber 2000] may harbour them. Therefore, future studies should investigate the moral side of different forms of industry-academia relations.

## EVALUATION OF THE STUDY

The research was evaluated according to principles put forward by Klein and Myers [1999], and a full description of the evaluation is to be found in Vartiainen [2005b]. Next, the principles of most significant importance in relation to this study are considered.

First, let us consider the fundamental principle of the hermeneutic circle, which is the basis of hermeneutics. According to this principle, human understanding is achieved by iterating between the parts and the whole. In other words, we come to understand a complex whole from the meanings of its parts and their interrelationships and by iterating back and forth with interpretations until unresolved contradictions or gaps are filled. The hermeneutic circle is actualised in this interpretive study in the determination of categories with referential and structural aspects that constitute the second-order perspective of instructors' perceptions.

Second, two principles, interaction between researchers and subjects, and suspicion, emerged. The twelve subjects represented instructors on a single project course offered by a Finnish university, and the researcher himself was one of those subjects. The descriptions of moral conflicts were treated equally regardless of whether the source was the researcher, the leading instructor, my colleague, or any other of the nine instructors. However, there are influential sources of bias in this setting. My presence and activities at various stages as a researcher, an instructor and a co-worker with the leading instructor definitely affected the subjects. While participating I directed my colleague instructors to deliberate about the real moral conflicts they confronted during the course. This could be considered both a strength and a weakness of this study; my intervention led the instructors to deliberate using concepts they would not otherwise have considered, and by participating fully in the actions at the research stage I acquired genuine experience of the problems associated with the guidance meetings and assessment, for example. From the instructors' viewpoint, however, fears of being shown up [see problems of interviewing in Fielding 1993] were significant, and therefore it is impossible to assess what they left unsaid or even invented in their expressions. As an example, there was one instructor who did not disclose the problematic issues raised by another, which dealt with problems in their relationship. However, some of the instructors revealed that they were concerned about their personality and well-being, and about how they were able to carry out their work tasks. Therefore, at least for some of them, the fear of being shown up was not as strong as it might have been for others. Regardless of this, there were quantitatively fewer moral-failure-related moral conflicts than relations-directed moral conflicts reported in this study. This means that it was mentally impossible for the instructors to express such conflicts, that they did not interpret such conflicts as moral ones, or that there simply were no such conflicts. The two first reasons seem more plausible than the third. For example, none of the subjects confessed to being negligent with regard to their work tasks, but this was the implication from other instructors' statements. Related to this, Mattson [1998] argues that the study of individuals' morality must take place in various situations because if we approach criminals or anyone else we may just get the picture of his or her moral ideology formed for the interview situation.

During the first year of the in-depth phase, my colleague and I had a relationship with the leading instructor that resembled a master-apprentice relationship. As I see it, the process of socialisation as described by Swap et al. [2001] took place between the leading instructor, my colleague, and me. The learning of the instructor's work was based on discussions, which concerned the role of the instructor in the group, for example, the difficulties arising in these groups and how to handle them, and even some difficulties regarding the instructors, their relations and motivations. The discussions took place in regular instructor meetings, but also during coffee breaks and lunches. Although there was an atmosphere of free and open discussion among the instructors, the leading instructor dominated: after all, he had more than 20 years of experience in small-group guidance and course coordination.

How does becoming a total insider or "becoming the phenomenon" [Jorgensen 1989, 62] affect the research? Immersion in the DP course could be considered both a strength and a limitation of this study. Although struggling with the problems provided me with a profound understanding of

the course, it is possible that I could not see all critical aspects from the inside. This might apply especially to someone who was developing his professional skills and focusing on everyday problems at the same time. As far as the DP course is concerned, it would have been possible to refrain from participating as an instructor in order to observe the events, but in that case access to all the critical discussions may not have been possible.

The status of the leading instructor as the pedagogical brains behind the course also affected the results. The emphasis on the learning aspect above the objectives of the clients was a result of the leading instructor's continuous efforts. As university teachers without experience of guiding small groups took on the instructor's job each year, the discussions in the instructors' meetings were concentrated on the very basic issues concerning the job. In my view, this is a strength as far as this research is concerned as it forced us on numerous occasions to deliberate on the core problems of our work.

As a researcher participating fully in the instructor's work, and in later years as the next leading instructor, at the moment I personally find the resulting categorisation and my colleagues' perceptions meaningful in the research context. Lacity and Janson [1994, 149] see validity in interpretive research in terms of its acceptance by the scientific community. Therefore, it is left for other researchers to assess whether or not the results of this study are valid and worthwhile.

Third, according to the principle of abstraction and generalisation, the researcher has to show how these two concepts relate to the field-study details. Although interpretive studies are conducted in unique circumstances, these unique aspects may be related to ideas and concepts that apply to other situations. I explained how I collected and analysed my data in the context of the study design, and in the results section I presented aspects and categorisations together with extracts from the data. In terms of generalisation, because this study is an in-depth case study, the results are not directly generalisable to other project courses. However, they do point to some problem areas that could be deliberated in other project courses — especially ones resembling the course I studied. The comparison with the relevant literature strengthens my view that the study highlighted the most significant features of moral conflicts in student projects.

## **VI. CONCLUSIONS**

This study reported the moral conflicts perceived by instructors on a project course in computing. The objective of the course in question is to acquire project-work skills through implementing a project task for a real-life client. Participant observation and interviews were used as data-gathering methods, and phenomenography was used in the analysis. Six types of moral conflicts were identified, reflecting two aspects of the phenomenon. The first relates to conflicts involving outside parties, and task-related and human issues, and the second to deliberation about performing morally wrong acts or maintaining relations. An instructor failing in moral behaviour (e.g., neglecting work tasks) sometimes caused other instructors to confront relations-directed moral conflicts when they had to decide whether or not to intervene (e.g., the leading instructor deliberated on whether he should intervene). The core problem area in the instructor's work became visible in relations-directed moral conflicts in the form of inherent role strains. Four types of role strains emerged: the first type, learning vs. results, related to balancing the objectives of the educational institute to promote learning and the objectives of the client to achieve good results. The second type concerned the activeness of instructor: the more he or she participated in the functioning of the group the less responsibility the group took for learning project work independently. The third type, building trust in order to obtain information about the group process and to provide students with feedback at the same time, requires insightful footwork in the guidance process. The fourth type, upholding one's personality, was a matter of concern if an instructor perceived that his or her personality did not fit what was expected of someone in that role. These role strains explain the demanding nature of the instructor's work in the course in question. Other role conflicts emerged when the responsibilities of an instructor collided with those of other roles (e.g., being a friend or a business actor). Certain means of tackling role strains in the instructor's work were determined. The promotion of three types of obligation was

offered as a means of achieving stable collaboration and coping with the role strains: respect for the individual, the promotion of learning and development, and the promotion of partnership. Five levels of instructor intervention (outsider, observer, inspirer, participant, and decision-maker) were offered as a framework for solving the problem of instructor activeness. Complete discussion was suggested as a conflict-resolution strategy for promoting social learning and trustful relations among the parties involved in a project course. Finally, the study was evaluated according to the principles of interpretive research. On the one hand, where sensitive issues were concerned, the data gathering was prone to bias due to the fear of being shown up. On the other hand, with participant observation it was possible to witness critical situations like assessment meetings.

## ACKNOWLEDGEMENTS

I would like to thank my many teacher and researcher colleagues, but for reasons of confidentiality I cannot give their names. I am grateful to the reviewers of *Communications of the Association for Information Systems* and Koli Calling conference for their insightful feedback!

*Editor's Note:* This article was received on March 6, 2007. It was with the author two months for two revisions.

## REFERENCES

- Anderson, R. E., D. G., Johnson, D. Gotterbarn, and J. Perrolle. (1993). "Using the New ACM Code of Ethics in Decision-Making," *Communications of ACM* (36)2, pp. 98-107.
- Barki, H. and J. Hartwick. (2001). "Interpersonal Conflict and Its Management in Information System Development," *MIS Quarterly* (25)2, pp. 195-228.
- Berleur, J. and K. Brunnstein (eds.). (1996). *Ethics of Computing - Codes, Spaces for Discussion and Law*. London: Chapman & Hall.
- Blake, R. R. and J. S. Mouton. (1978). "The New Managerial Grid," Houston: Gulf Publishing Company. Rererenced in F.E. Kast and J.E., Rosenzweig (1985) *Organization & Management: A Systems and Contingency Approach*. New York: McGraw-Hill.
- Bergeron, B. P. (1996). "Academia, Privacy and Modern Information Technology: Partnering With Industry in the Modern Economy," Proceedings of the 14th Annual International Conference on Systems Documentation: Marshaling New Technological Forces: Building s Corporate, Academic, and User-Oriented Triangle, SIGDOC '96. pp. 243-245.
- Boyd, A. (2001). "The Five Maxims of Project Satisfaction," *Aslib Proceedings* 53 (10), 423-430.
- Brittain, K. and R. Leifer. (1986). "Information Systems Development Success: Perspectives from Project Team Participants," *MIS Quarterly* (10)3, pp. 215-223.
- Brown T. L. (1985). "University-Industry Relations: Is There a Conflict?" *Journal of Society of Research Administrators* (17)2, pp. 7-17.
- Bynum, T. W. (1992). "Computer Ethics in the Computer Science Curriculum," In Bynum, T. W., W. Maner, J. L. Fodor (eds.) *Teaching Computer Ethics, Research Center on Computing and Society*, New Haven, CT: Southern Connecticut State University. pp. 12-25.
- Carroll, A. B. (1999). "Ethics in Management," In R.E. Frederick (ed.) *A Companion to Business Ethics*. Oxford, UK: Blackwell. pp. 141-152.
- Clarkeburn, H. (2002). "A Test for Ethical Sensitivity in Science," *Journal of Moral Education* (31)4, pp. 439-453.
- Collins, W. R. and K. W. Miller. (1992). "Paramedic Ethics for Computer Professionals," *Journal of Systems Software* (17)1, 23-38.

- Cotterell, M. and B. Hughes. (1995). *Software Project Management*. London: International Thomson Computer Press.
- Culnan, M. J. (1987). "Mapping the Intellectual Structure of MIS, 1980-1985: A Co-Citation Analysis," *MIS Quarterly* (11)3, pp. 341-353.
- De Dreu, C. K. W. and L. R. Weingart. (2003). "Task versus Relationship Conflict, Team Performance, and Team Member Satisfaction: A Meta-Analysis," *Journal of Applied Psychology* (88)4 741-749.
- Fenstermacher G. D. (1991). "Some Moral Considerations on Teaching as a Profession," In Goodlad J.I., Soder, R., Sirotnik K.A. (eds.) *The Moral Dimensions of Teaching*. San Francisco: Jossey-Bass Publishers.
- Fielden, K. (1999). "Starting Right: Ethical Education for Information Systems Developers," In C.R. Simpson (ed.) *AICEC99 Conference Proceedings, 14-16 July 1999*. Melbourne. Brunswick East, Victoria: Australian Institute of Computer Ethics. pp. 147-156.
- Fielding, N. (1993). "Qualitative Interviewing," In N. Gilbert (ed.) *Researching Social Life*. London: SAGE Publications. pp. 135-153.
- Francis, H. (1993). "Advancing Phenomenography," *Nordisk Pedagogik* (13)2, pp. 68-75.
- Fritz, J. M. (1987). "A Pragmatic Approach to Systems Analysis and Design" In A. K. Rigler, D.C. St. Clair (eds.) *Proceedings of the Eighteenth SIGCSE Technical Symposium on Computer Science Education, St. Louis, Missouri, United States*. New York: ACM Press. pp. 127-131.
- Gillian, W. R., and D. L. Krebs. (2000). "The Construction of Moral Dilemmas in Everyday Life," *Journal of Moral Education* (29)1, pp. 5-22.
- Gorgone, J. T., G. B. Davis, J. S. Valacich, H. Topi, D. L. Feinstein and H. E., Jr Longenecker. (2002). "IS 2002. Model Curriculum and Guidelines for Undergraduate Degree Programs in Information Systems," *Communications of the Association for Information Systems* (11) Article 1.
- Gowans, C. W. (1987). "The Debate on Moral Dilemmas," In C.W. Gowans (ed.) *Moral Dilemmas*. New York: Oxford University Press. pp. 3-33.
- Green, L. (2003). "Projecting IT Education into the Real World," In *Proceeding of the 4th Conference on Information Technology Education. CITC4'03, October 16-18, 2003, Lafayette, Indiana, USA*. New York: ACM Press. 111-114.
- Habermas J. (1984). *The Theory of Communicative Action, Vol. 1. Reason and the Rationalization of Society* (London, Heinemann).
- Habermas, J. (1990). *Moral Consciousness and Communicative Action*. Cambridge: MIT Press.
- Helle, L., P. Tynjälä, and E. Olkinuora. (2006). "Project-Based Learning in Post-Secondary Education – Theory, Practice and Rubber Sling Shots," *Higher Education* (51)2, pp. 287-314.
- Hill, T. E. (1996). "Moral Dilemmas, Gaps, and Residues: A Kantian Perspective," In H. E. Mason (ed.) *Moral Dilemmas and Moral Theory*. New York: Oxford University Press. pp. 167-198.
- Ihde, D. (1979). *Experimental Phenomenology*. New York: G.P. Putnam's Sons.
- Isomäki, H. (2002). *The Prevailing Conceptions of the Human Being in Information Systems Development: Systems Designers' Reflections*. University of Tampere. Department of Computer Science and Information Sciences. Report A-2002-6. Dissertation.

- Johnson, D. (1994). "Who Should Teach Computer Ethics and Computers & Society?" *Computers and Society* (24)2, pp. 6-13.
- Jorgensen, D. L. (1989). "Participant Observation: A Methodology for Human Studies," *Applied Social Research Methods Series*. Newbury Park: Sage.
- Joseph, P. and S. Efron. (1993). "Moral Choices/Moral Conflicts: Teachers' Self-Perceptions," *Journal of Moral Education* (22)3, pp 201-221.
- Järvinen, P. (2001). *On Research Methods*. Tampere, Finland: Opinpaja Oy.
- Järvinen, P. (2007). "On Studying Socially Constructed Reality," In (eds. T. Tiainen, H. Isomäki, M. Korpela, A. Mursu, P. Nykänen, M-K. Paakki, and S. Pekkola) *Proceedings of 30th Information Systems Research Seminar in Scandinavia – IRIS30*. Department of Computer Sciences, University of Tampere, Report D - 2007 - 9. 22-33.
- Kallman, E. A. and J. P. Grillo. (1996) *Ethical Decision Making and Information Technology: An Introduction with Cases*. New York: McGraw-Hill.
- Kant, I. (1993). *The Moral Law: Groundwork of the Metaphysic of Morals*. Translated by Paton H.J. London: Routledge.
- Kenney, M. (1987). "The Ethical Dilemmas of University-Industry Collaborations," *Journal of Business Ethics* (6)2, pp. 127-135.
- Klein, H. K. and M. D. Myers. (1999). "A Set of Principles for Conducting and Evaluating Interpretive Field Studies in Information Systems," *MIS Quarterly* (23)1, pp. 67-94.
- Kohlberg, L. (1981). *The Philosophy of Moral Development, Moral Stages and the Idea of Justice*. San Francisco: Harper & Row.
- Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. New Jersey: Prentice-Hall Inc.
- Lacity, M. C. and M. A. Janson. (1994). "Understanding Qualitative Data: A Framework of Text Analysis Methods," *Journal of Management Information Systems* (11)2, pp. 137-155.
- Lemmon, E. J. (1987). "Moral Dilemmas," In C.W. Gowans (ed.) *Moral Dilemmas*. New York: Oxford University Press. 101-114.
- Martinsuo M. (1999). *Promotion of Values in a Multinational Enterprise*. HUT Industrial Management and Work and Organizational Psychology, Report 10. Helsinki: Helsinki University of Technology. Dissertation.
- Marton, F. (1986). "Phenomenography – A Research Approach to Investigating Different Understandings of Reality," *Journal of Thought* (21)3, pp. 28-49.
- Marton, F. and M. F. Pang. (1999). "Two Faces of Variation," In Eighth European Conference for Learning and Instruction, August 24-28, Göteborg University, Göteborg, Sweden. 1-12.
- Mattson, M. (1998). *Pahanteon Psykologia*. Helsinki: Tietosanoma. (Psychology of Perpetration; In Finnish)
- Moses, L., S. Fincher, and J. Caristi. (2000). "Teams Work," (panel session). In S. Haller (ed.) *Proceedings of the Thirty-First SIGCSE Technical Symposium on Computer Science Education*. March 7-12, Austin, USA. New York: ACM Press. 421-422.
- Muhr, T. (1997). *Atlas.ti*. A software programme. Berlin: Science Software Development.

- Myry, L. (2003). *Components of Morality: A Professional Ethics Perspective on Moral Motivation, Moral Sensitivity, Moral Reasoning and Related Constructs among University Students*. Academic Dissertation, November 2003. University of Helsinki, Department of Social Psychology, Faculty of Social Sciences.
- Nagel, T. (1987). "The Fragmentation of Value," In C.W. Gowans (ed.) *Moral Dilemmas*. New York: Oxford University Press. pp. 174-187.
- Oser, F. (1991). "Professional Morality: A Discourse Approach (The Case of the Teaching Profession)" In W. Kurtines and J. Gewirtz (eds.) *Handbook of Moral Behavior and Development*, Vol. 2, New Jersey: Lawrence Erlbaum Associates. pp. 191-228.
- Packer, M. J. (1985). *The Structure of Moral Action: A Hermeneutic Study of Moral Conflict*. Basel: Karger.
- Piaget, J. (1977). *The Moral Judgment of the Child*. Harmondsworth: Penguin.
- Pigford, D. V. (1992). "The Documentation and Evaluation of Team-Oriented Database Projects," In Proceedings of the Twenty-Third Technical Symposium on Computer Science Education. Kansas City, Missouri, United States. New York: ACM Press. pp. 28-33.
- Rest, J. (1984). "The Major Components of Morality," In W. M. Kurtines, J. L. Gewirtz (eds.) *Morality, Moral Behavior, and Moral Development*. New York: A Wiley-Interscience Publication. pp. 24-38.
- Rest, J. (1994). "Background: Theory and Research," In J.R. Rest, D. Narvaez (eds.) *Moral Development in the Professions: Psychology and Applied Ethics*. Mahwah: Lawrence Erlbaum Associates. pp. 1-26.
- Roberts, E. (2000). "Computing Education and the Information Technology Workforce," *SIGCSE Bulletin* (32)2, pp. 83-90.
- Ross, J. and K. Ruhleder. (1993). "Preparing IS Professionals for a Rapidly Changing World: The Challenge for IS Education," In M. R. Tanniru (ed.) Proceedings of the 1993 Conference on Computer Personnel Research, St. Louis, Missouri, United States. New York: ACM Press. pp. 379 – 384.
- Secord, P. F. and C. W. Backman. (1964). *Social Psychology*. New York: McGraw-Hill.
- Scott, T. J., L. H. Tichenor, Jr., R. B., Bisland, and J. H. Cross. (1994). "Team Dynamics in Student Programming Projects," *SIGSCE* (26)1, pp. 111-115.
- Semprevivo, P. C. (1980). *Teams in Information Systems Development*. New York: Yourdon Press.
- Stankiewicz, R. (1986). *Academics and Entrepreneurs, Developing University-Industry Relations*. London: Frances Pinter Publishers.
- Statman, D. (1995). *Moral Dilemmas*. Amsterdam: Rodopi.
- Swap, W., D. Leonard, M. Shields, and L. Abrams. (2001). "Using Mentoring and Storytelling to Transfer Knowledge in the Workplace," *Journal of Management Information Systems* (18)1, pp. 95-114.
- Tirri, K. (1999). "Teachers' Perceptions of Moral Dilemmas at School," *Journal of Moral Education*, (28)1, pp. 31-47.
- Tom, A. (1980). "Teaching as a Moral Craft: A Metaphor for Teaching and Teacher Education," *Curriculum Inquiry* (10)3, pp. 317-323.

- Tourunen, E. (1992). "Educating Reflective System Designers by Using the Experiential Learning Mode," In B.Z. Barta, A. Goh, L. Lim (eds.) *Professional Development of Information Technology Professionals*. Amsterdam: Elsevier Science Publishers. pp. 113-120.
- Tourunen, E. and T. Vartiainen. (2002). "Ethical Issues in Project Learning," Presented: International Conference on Experiential Learning, ICEL 2002 Cultural and Ethical Dilemmas, 1-5 July, Ljubjana, Slovakia. (abstract-based acceptance of articles)
- Uljens, M. (1991). "Phenomenography – A Qualitative Approach in Educational Research," In L. Syrjälä and J. Merenheimo (eds.) *Kasvatustutkimuksen laadullisia lähestymistapoja*. Kvalitatiivisten tutkimusmenetelmien seminaari Oulussa 11.-13.10.1990. Esitelmiä. Oulun yliopiston kasvatustieteiden tiedekunnan opetusmonisteita ja selosteita 39, 1991.
- Vartiainen T. (2005a). "Moral Conflicts Perceived by Instructors of a Project Course," In Salakoski, T., Mäntylä, T. Laakso, M. (eds.) *Proceedings of Koli Calling 2005, Fifth Koli Calling Conference on Computer Science Education*. TUCS General Publication, No 41, January 2006. pp. 25-32.
- Vartiainen, T. (2005b). *Moral Conflicts in a Project Course in Information Systems Education*. Department of Computer Science and Information Systems. University of Jyväskylä. Dissertation thesis.
- Vartiainen T. (2006a). "Moral Conflicts Perceived by Students of a Project Course," In A. Berglund and M. Wiggberg (eds.) *Proceedings of 6th Baltic Sea Conference on Computing Education Research, Koli Calling 2006*. Uppsala University, Uppsala, Sweden. pp. 77-84.
- Vartiainen, T. (2006b). "Moral Problems in Industry-Academia Partnership: The Viewpoint of Clients on a Project Course," In *Proceedings of Fifteenth International Conference on Information Systems Development (ISD'2006)*, Budapest, Hungary. (in press)
- Watson, H. J. and M. W. Huber. (2000). "Innovative Ways to Connect Information Systems Programs to the Business Community," *Communications of the Association for Information Systems* (3), Article 11.
- Ziegler, W. L. (1983). "Computer Science Education and Industry: Preventing Educational Misalignment," In E. M. Awad (ed.) *The Proceedings of the Twentieth Annual Computer Personnel on Research Conference*, Charlottesville, Virginia, USA. November . 108-112.

## ABOUT THE AUTHOR

**Tero Vartiainen** is adjunct professor in the Department of Computer Science and Information Systems, University of Jyväskylä, and Lecturer at Turku School of Economics, Pori Unit. His work focuses on computer ethics and project management.

Copyright © 2007 by the Association for Information Systems. Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and full citation on the first page. Copyright for components of this work owned by others than the Association for Information Systems must be honored. Abstracting with credit is permitted. To copy otherwise, to republish, to post on servers, or to redistribute to lists requires prior specific permission and/or fee. Request permission to publish from: AIS Administrative Office, P.O. Box 2712 Atlanta, GA, 30301-2712 Attn: Reprints or via e-mail from [ais@aisnet.org](mailto:ais@aisnet.org)



# Communications of the Association for Information Systems

ISSN: 1529-3181

## EDITOR-IN-CHIEF

Joey F. George  
Florida State University

## AIS SENIOR EDITORIAL BOARD

Guy Fitzgerald Vice President Publications Brunel University	Joey F. George Editor, CAIS Florida State University	Kalle Lyytinen Editor, JAIS Case Western Reserve University
Edward A. Stohr Editor-at-Large Stevens Inst. of Technology	Blake Ives Editor, Electronic Publications University of Houston	Paul Gray Founding Editor, CAIS Claremont Graduate University

## CAIS ADVISORY BOARD

Gordon Davis University of Minnesota	Ken Kraemer Univ. of Calif. at Irvine	M. Lynne Markus Bentley College	Richard Mason Southern Methodist Univ.
Jay Nunamaker University of Arizona	Henk Sol Delft University	Ralph Sprague University of Hawaii	Hugh J. Watson University of Georgia

## CAIS SENIOR EDITORS

Steve Alter U. of San Francisco	Jane Fedorowicz Bentley College	Chris Holland Manchester Bus. School	Jerry Luftman Stevens Inst. of Tech.
------------------------------------	------------------------------------	---	---

## CAIS EDITORIAL BOARD

Michel Avital Univ of Amsterdam	Erran Carmel American University	Fred Davis Uof Arkansas, Fayetteville	Gurpreet Dhillon Virginia Commonwealth U
Evan Duggan Univ of the West Indies	Ali Farhoomand University of Hong Kong	Robert L. Glass Computing Trends	Sy Goodman Ga. Inst. of Technology
Ake Gronlund University of Umea	Ruth Guthrie California State Univ.	Alan Hevner Univ. of South Florida	Juhani Iivari Univ. of Oulu
K.D. Joshi Washington St Univ.	Chuck Kacmar University of Alabama	Michel Kalika U. of Paris Dauphine	Jae-Nam Lee Korea University
Claudia Loebbecke University of Cologne	Paul Benjamin Lowry Brigham Young Univ.	Sal March Vanderbilt University	Don McCubbrey University of Denver
Michael Myers University of Auckland	Fred Niederman St. Louis University	Shan Ling Pan Natl. U. of Singapore	Kelley Rainer Auburn University
Paul Tallon Boston College	Thompson Teo Natl. U. of Singapore	Craig Tyran W Washington Univ.	Chelley Vician Michigan Tech Univ.
Rolf Wigand U. Arkansas, Little Rock	Vance Wilson University of Toledo	Peter Wolcott U. of Nebraska-Omaha	Ping Zhang Syracuse University

## DEPARTMENTS

Global Diffusion of the Internet. Editors: Peter Wolcott and Sy Goodman	Information Technology and Systems. Editors: Alan Hevner and Sal March
Papers in French Editor: Michel Kalika	Information Systems and Healthcare Editor: Vance Wilson

## ADMINISTRATIVE PERSONNEL

James P. Tinsley AIS Executive Director	Chris Furner CAIS Managing Editor Florida State Univ.	Copyediting by Carlisle Publishing Services
--	---	--